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Virtual Reality for Education
We Live in Psychological Space

www.bonsaigardener.org       Michael Stuber
We Live in Social Space

(Proxemics)
We treat human-looking and human-acting things as real.

Only the most basic caricature or outline is needed.

It’s the visual & verbal narrative that matters.
The Elastic Sense of the Self

This Old House

Star Wars’ Queen Amidala
Games

World of Warcraft
Information in the Environment
Perception is an Active Process

Gestault

“Closure” – Scott McCloud 1993
Shared Cognition
Our Reality is Partly Artificial

(Partially Digital Environments)
Modern Manufacturing Helps Us Shape our World

http://formlabs.com/
Augmented Reality Lite

Uses both GPS and Compass

Layar Inc.
Google Glass
True Augmented Reality

Kaufmann 2006

Information Revealed

Satisfies the mind’s desire for “Closure”
Immersive Theater

http://speakeasydollhouse.com/
Museum Exhibits

Hughes 2004
Manipulating Imaginary Objects

SpaceGlasses are the future of computing

MetaVR
Virtual Reality

A technology or a way to produce an Environment that is

- Artificial
- Interactive
- Immersive (surrounds your senses)
- Makes spatial narratives possible
- Display is all or mostly digital.
Flight Simulators
Corner Cave

WorldViz
With a CAVE
Planetarium (Now Digital)
Inflatable Domes

E-Planetarium Inc.
Sensorially Immersive Virtual Reality with a Head Mounted Display
HMD + Treadmill
Wide Area Tracking With HMD

http://worldviz.com
Motion Capture & Haptics

Becoming Dragon

a 365 hour immersive performance in Second Life

Dec 1 - 17th
Opening Reception, Dec 1st 7-9pm
Daily hours, 11am-7pm

Micha Cardenas
2008
Online Virtual Environments

MUVES, “VR”
When to Use VR
Understand an Interior Space.
Real Life Would be too Dangerous

Simulation Training Systems
Fine Control Over Everything

Balance Disorder Research and Treatment

Medical Virtual Reality Center, UMPC
PTSD Treatment

Rizzo & Buckwalter
Simulated Surgery

http://conquermobile.com/
Distance Collaboration
Driving Simulators
Engineering, Training & Practice

Fraunhofer Institute
Presence = Engagement

- The feeling of “being there.”
- Can be sensory, psychological, or both.
- Foundation of VR
- Difficult to measure or define (Slater 2009)
- Said to increase engagement and therefore learning. NO!
- Presence IS engagement, or flow.
Conceptual Change

- Student has a gap or misconception.
- Presented with evidence she can’t integrate.
- Must change her conceptions on the topic.
- We can control artificial environments.
- VR can create unintended misconceptions.
Gates Of Horus

Jacobson 2011, 2013
Egyptian Oracle

Gillam & Jacobson, 2015
BostonVR.org

September 28\textsuperscript{th}, at Mass Challenge Scalable Display Technologies and Lighting Talks from Six Startups.

BostonVR again on October 18\textsuperscript{th} at Laugh Boston. Parcosm, MothAndFlame, and two startups.
BostonAR meets at Akamai, 6:00pm, tonight. Facial recog and Hololens.

Science Media Awards starts this Tuesday. VR at 6:00pm
http://www.sciencemediasummit.org/
Harvard Innovation Labs VR/AR Event
September 28th in the daytime
https://i-lab.harvard.edu/event/explorettheemergingworldsofaugmentedandvirtualreality/

Reality Virtually Hackathon
MIT Media Lab, October 7-10
http://www.realityvirtuallyhack.com/
Contact Me Any Time

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http://publicvr.org/talks/ocnerd.pdf